UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/013,034	10/30/2001	Erin M. Panttaja	23484-016	7750

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EXAMINER
SKED, MATTHEW J

ART UNIT	PAPER NUMBER
2655	

DATE MAILED: 06/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<table>
<tr><td rowspan="2">Office Action Summary</td><td colspan="2">Application No.
10/013,034</td><td colspan="2">Applicant(s)
PANTTAJA, ERIN M.</td></tr>
<tr><td colspan="2">Examiner
Matthew J Sked</td><td>Art Unit
2655</td><td></td></tr>
</table>

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-40* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10/30/01* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____ .

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)   4)☐ Interview Summary (PTO-413)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   Paper No(s)/Mail Date. _____ .
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)   5)☐ Notice of Informal Patent Application (PTO-152)
   Paper No(s)/Mail Date _____ .   6)☐ Other: _____ .

DETAILED ACTION

Drawings

1.   The drawings are objected to under 37 CFR 1.83(a) because they fail to show

the YES and NO indications on the decision blocks in Figures 3 and 4 as described in

the specification. Any structural detail that is essential for a proper understanding of the

disclosed invention should be shown in the drawing. MPEP § 608.02(d). The objection

to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

3.   Claim 36 recites the limitation "said masculine pronoun reference" in the first line.

There is insufficient antecedent basis for this limitation in the claim. There is no prior

reference in claim 31 of a masculine pronoun reference. For the purpose of

Examination it will be assumed that claim 36 should depend upon claim 35.

4.   Claim 38 recites the limitation "said singular pronoun reference" in the first line.

There is insufficient antecedent basis for this limitation in the claim. There is no prior

reference in claim 31 of a singular pronoun reference. For the purpose of Examination

it will be assumed that claim 38 should depend upon claim 37.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6.   Claims 23-25 and 31-33 are rejected under 35 U.S.C. 102(e) as being

anticipated by Tackett et al. (U.S. Pat. 6,604,090).

        As per claims 23 and 31, Tackett teaches a method and system of establishing a

pronoun preference to a noun identifier in a database comprising the steps of:

        A) establishing at least one pronoun preference field in a pronoun database

corresponding to a reference noun identifier in a reference database

(CmapStringToString structure contains the current mapping of pronouns to

replacements, col. 52, lines 60-63 and Table 4);

        B) searching for information indicative of a pronoun preference (determines if a

found pronoun has an entry in the map structure, col. 53, lines 13-18); and

        C) assigning said pronoun preference field a designation indicative of a first

pronoun designation (replacement noun is substituted for the pronoun, col. 53, lines 13-

18).

7.   As per claims 24 and 32, Tackett teaches searching a record corresponding to

said reference noun identifier in said reference database (outputs a response to the

user's query in which the response is stored in connection with the replacement noun ,

col. 55, lines 8-21 and Table 4).

8.   As per claims 25 and 33, Tackett teaches searching a plurality of records, in said

reference database, having a same or similar noun identifier as said reference noun

identifier for information indicative of a pronoun reference (multiple responses are

stored in the structure in connection with the noun and the correct response is searched

based upon the query, Table 4).

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill.in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

10.   Claims 1-22, 39 and 40 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Tackett in view of Haddock et al. (U.S. Pat. 5,265,014).

As per claims 1 and 6, Tackett teaches a method of interpreting a pronoun

reference comprising the steps of:

A) recognizing a user input as containing a recognized pronoun reference

(replaces pronouns in the user's input, col. 52, lines 50-54);

B) associating a listing of noun references with an associated pronoun

preference (associates pronouns with names, Table 4);

C) comparing said recognized pronoun reference to at least one of said

associated pronoun preferences (determines if a found pronoun has an entry in the map

structure, col. 53, lines 13-18); and

D) selecting one of said noun references of said historical listing as a function of

said comparison between said recognized pronoun reference and at least one of said

associated pronoun preferences (replacement noun is substituted for the pronoun, col.

53, lines 13-18).

Tackett does not teach the listing of noun references to be a historical listing.

Haddock teaches a user interface that interprets ambiguous queries by

interpreting pronouns from previously stated nouns (history, col. 6, lines 49-58 and Fig.

2, element 39).

It would have been obvious to one of ordinary skill in the art at the time of

invention to modify the system of Tackett so the noun listing is a historical listing as

taught by Haddock because it would allow pronouns that reference nouns not stored

prior to run time to be comprehended hence giving better understanding of the input.

11.   As per claims 2 and 7, Tackett teaches the associated pronoun is determined as

a function of historical usage of a pronoun with respect to the noun reference (structures

are built by the programmer who would inherently associate nouns and pronouns based

upon the common usage of that pronoun in recent history, Table 4).

12.   As per claims 3 and 8, Tackett and Haddock do not teach the historical usage

includes maintaining a count of correct usage events of a given pronoun with respect to

a given pronoun reference.

However, the Examiner takes Official Notice that taking counts of successful implementation is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Tackett and Haddock to maintain a count of correct usage events of a given pronoun with respect to a given pronoun reference because it would continue using successful replacements hence limiting error.

13.   As per claims 4 and 9, Tackett teaches the noun reference is selected based upon a match of said recognized pronoun reference with at least one of associated pronoun references (determines if a found pronoun has an entry in the map structure, col. 53, lines 13-18).

14.   As per claims 5 and 10, Tackett does not teach the recognized pronoun reference is compared to at least one of said associated pronoun references in order from most recent to least recent in said historical listing.

Haddock teaches searching for a candidate noun for the pronoun in the previous query hence the most recent (col. 6, lines 49-58).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Tackett to search the historical listing from most recent to least recent because the reference noun the pronoun would reference would most likely be a more recent noun hence speeding up searching.

15.   As per claims 11 and 17, Tackett teaches a method of interpreting a pronoun reference comprising the steps of:

A) recognizing a user input as containing a recognized pronoun reference

(replaces pronouns in the user's input, col. 52, lines 50-54);

B) associating a listing of at least one noun reference with an associated pronoun

preference (associates pronouns with names, Table 4);

C) comparing said recognized pronoun reference to at least one of said

associated pronoun preferences (determines if a found pronoun has an entry in the map

structure, col. 53, lines 13-18); and

D) selecting a record from a database corresponding to one of said noun

references of said historical listing as a function of said comparison between said

recognized pronoun reference and at least one of said associated pronoun preferences

(outputs a response to the user's query in which the response is stored in connection

with the replacement noun , col. 55, lines 8-21 and Table 4).

Tackett does not teach the listing of noun references to be a historical listing.

Haddock teaches a user interface that interprets ambiguous queries by

interpreting pronouns from previously stated nouns (history, col. 6, lines 49-58 and Fig.

2, element 39).

It would have been obvious to one of ordinary skill in the art at the time of

invention to modify the system of Tackett so the noun listing is a historical listing as

taught by Haddock because it would allow pronouns that reference nouns not stored

prior to run time to be comprehended hence giving better understanding of the input.

16.   As per claims 12 and 18, Tackett teaches the associated pronoun is determined

as a function of historical usage of a pronoun with respect to the noun reference

(structures are built by the programmer who would inherently associate nouns and pronouns based upon the common usage of that pronoun in recent history, Table 4).

17.   As per claims 13 and 19, Tackett and Haddock do not teach the historical usage includes maintaining a count of correct usage events of a given pronoun with respect to a given pronoun reference.

However, the Examiner takes Official Notice that taking counts of successful implementation is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Tackett and Haddock to maintain a count of correct usage events of a given pronoun with respect to a given pronoun reference because it would continue using successful replacements hence limiting error.

18.   As per claims 14 and 20, As per claims 5 and 10, Tackett does not teach the recognized pronoun reference is compared to at least one of said associated pronoun references in order from most recent to least recent in said historical listing.

Haddock teaches searching for a candidate noun for the pronoun in the previous query hence the most recent (col. 6, lines 49-58).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Tackett to search the historical listing from most recent to least recent because the reference noun the pronoun would reference would most likely be a more recent noun hence speeding up searching.

19.   As per claims 15 and 21, Tackett teaches storing the user's phone number in the user attribute memory (col. 26, lines 33-38).

Neither Tackett nor Haddock teach placing a telephone call.

However, the Examiner takes Official Notice that automated telephone systems are notoriously well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Tackett and Haddock to place a telephone call to the number from the selected record because it would allow the user to use natural language to obtain the number from memory hence facilitating use.

20.   As per claims 16 and 22, neither Tackett nor Haddock teach sending an electronic message to address selected in the selected record.

However, the Examiner takes Official Notice that automated email systems are notoriously well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to modify the system of Tackett and Haddock to send a message to an address from the record because it would allow the user to use natural language to obtain the address from memory hence facilitating use.

21.   As per claims 39 and 40, Tackett teaches a system providing for user interaction comprising:

a personal assistant adapted to presenting prompts to and receiving responses from a user (presents prompts and recognizes responses, col. 54, lines 4-13);

said voice personal assistant including a recognizer adapted for recognizing responses that include pronouns, received from the user (recognizes responses with pronouns and replaces them, col. 52, lines 50-54);

means for associating at least one associated pronoun preference with at least one noun reference in a list (associates pronouns with names, Table 4);

means for comparing a recognized pronoun with at least one of said associated pronoun preferences (determines if a found pronoun has an entry in the map structure, col. 53, lines 13-18);

an application adapted for performing at least one function for said user (responds to user's query, col. 54, lines 3-13);

means for selecting one of said noun references of said historical listing as a function of a comparison between a recognized pronoun with at least one of said associated pronoun preferences (replacement noun is substituted for the pronoun, col. 53, lines 13-18); and

utilizing a selected one of said noun references in performing a function of said application (outputs a response to the user's query in which the response is stored in connection with the replacement noun , col. 55, lines 8-21 and Table 4).

Tackett does not teach the listing of noun references to be a historical listing.

Haddock teaches a user interface that interprets ambiguous queries by interpreting pronouns from previously stated nouns (history, col. 6, lines 49-58 and Fig. 2, element 39).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Tackett so the noun listing is a historical listing as taught by Haddock because it would allow pronouns that reference nouns not stored prior to run time to be comprehended hence giving better understanding of the input.

Tackett does no teach the system to be operated by voice.

Haddock teaches the system to be responsive to human speech (col. 4, lines 18-32).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Tackett to have a voice responsive system as taught by Tackett because it would allow hands free operation of the system.

22.   Claims 26 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tackett.

Tackett teaches searching a plurality of records, in said reference database, having a same or similar noun identifier as said reference noun identifier for information indicative of a pronoun reference (multiple responses are stored in the structure in connection with the noun and the correct response is searched based upon the query, Table 4).

Tackett does not teach a default pronoun designation database.

However, the Examiner takes Official Notice that default operations are well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the system of Tackett to have a default pronoun designation database because it would allow the system to make a determination on the meaning of a pronoun if an appropriate reference noun can not be found.

23.   Claims 27-30 and 35-38 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Tackett in view of Lappin et al. ("An Algorithm for Pronominal

Anaphora Resolution").

As per claims 27 and 35, Tackett does not teach a masculine pronoun

preference field and a feminine pronoun preference field.

Lappin teaches a method of determining noun phrase antecedents that

determines the gender of the pronoun for determination of the antecedent noun (page

543, step 3).

It would have been obvious to one of ordinary skill in the art at the time of

invention to modify the system of Tackett to have a masculine and feminine preference

field because, as taught by Lappin, this would reduce the set of possible noun

antecedents (page 544, last full paragraph) hence speeding up searching.

24.   As per claims 28 and 36, Tackett teaches being able to recognize the pronoun

"him" (col. 55, lines 5-7), it is well known that "him" is a masculine pronoun.

Tackett does not specifically teach the feminine pronoun preference is "her".

Lappin teaches being able to recognize the pronoun "her" (page 538, condition

2), it is well known that "her" is a feminine pronoun.

It would have been obvious to one of ordinary skill in the art at the time of

invention to modify the system of Tackett to use "her" as the feminine noun preference

as taught by Lappin because it would facilitate use by using commonly used words as

the pronoun preferences.

25.   As per claims 29 and 37, Tackett does not teach establishing a singular pronoun

preference field and a plural pronoun preference field.

Lappin teaches a method of determining noun phrase antecedents that

determines the number of the pronoun for determination of the antecedent noun (page

543, step 3).

It would have been obvious to one of ordinary skill in the art at the time of

invention to modify the system of Tackett to have a singular and plural preference field

because, as taught by Lappin, this would reduce the set of possible noun antecedents

(page 544, last full paragraph) hence speeding up searching.

26.   As per claims 30 and 38, Tackett does not teach the singular preference is "it"

and the plural pronoun preference is "them".

Lappin teaches being able to recognize "it" (pages 545-545, section 3.2) and

"them" (themselves, page 540, condition 1).

It would have been obvious to one of ordinary skill in the art at the time of

invention to modify the system of Tackett to use the singular preference is "it" and the

plural pronoun preference is "them" because as taught by Lappin because it would

facilitate use by using commonly used words as the pronoun preferences.

Conclusion

27.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Denber (U.S. Pat. 6,233,547), Paul et al. (U.S. Pat. 6,343,266),

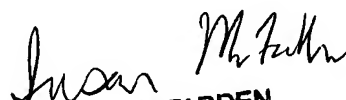Selesky (U.S. Pat. 6,125,342), Wymore et al. (U.S. Pat. 6,456,978), Dahigren et al.

(U.S. Pat. 5,794,050) teach alternate methods for pronoun understanding and replacement.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J Sked whose telephone number is (571) 272-7627. The examiner can normally be reached on Mon-Fri (8:00 am - 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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SUSAN MCFADDEN
PRIMARY EXAMINER